

MOBILE EQUIPMENT BASED FILTERING FOR
PACKET RADIO SERVICE (PRS)

ABSTRACT OF THE DISCLOSURE

A method for operating a mobile equipment (ME 10) in a wireless network (12), the method having steps of (A) determining a parameter that is indicative of a signal quality experienced by the ME, such as by determining a speed of the ME; (B) calculating in the ME an indication of link quality, the calculation employing a filtering operation having a filter length that is a function of the determined parameter, such as speed or derivative of the speed of the ME; and (C) reporting the calculated indication of link quality to the wireless network. The step of determining includes steps of (a) deriving an indication of ME speed in the wireless network; and (b) transmitting the speed indication to the ME using a point-to-point message. In a preferred embodiment the step of transmitting places the ME speed indication in padding bits of the point-to-point message, such as one sent on a Packet Associated Control Channel (PACCH). In a most preferred embodiment the step of transmitting uses a plurality of bits placed into padding bits of a Packet System Identification 13 (PSI13) message sent on the Packet Associated Control Channel (PACCH). The plurality of bits (e.g., four bits) are used to encode a plurality of speed subranges (e.g., 16 subranges) of a predetermined ME speed range (e.g., 0km/hr to 250km/hr). The indication of ME speed is used to one of modify or replace a forgetting factor "a" that is calculated using a parameter received in a broadcast message from the wireless network. The forgetting factor influences the length a running average filter that operates on link quality measurement data, such as a mean Bit Error Probability (BEP) or a coefficient of variation of the BEP.